

APPENDIX E

**CONSISTENCY DETERMINATION
DETERMINATION OF CONSISTENCY
with the
California Coastal Act of 1976
Santa Barbara Harbor Maintenance Dredging
(Six-Year Program)
Santa Barbara County, California**

April 1998

Introduction and Project Purpose

The Los Angeles District of the U.S. Army Corps of Engineers is proposing a six-year program of maintenance dredging in Santa Barbara Harbor, Santa Barbara County, California (see Figures 1-3 of the Environmental Assessment (EA)). The proposed Santa Barbara Harbor dredging project would serve the following purposes: (1) maintain the entrance and navigation channels which are subject to continual filling by sand accretion; (2) assure the continued safe navigation for maritime traffic within the harbor; (3) minimize the risk of hazardous shoaling conditions developing within the entrance and navigation channels by maintaining a sand trap in the channels; (4) avoid intrusion of dredging operations into the critical seasons of vulnerable species; and (5) provide beach nourishment material for downcoast beaches severely eroded by the littoral processes and by the harbor disruption of the longshore transport of sand.

This Consistency Determination summarizes the 1998 Six-Year Maintenance Dredging EA. The EA provides greater detail on the proposed project, the existing environment, the project's potential environmental effects, and environmental commitments to lessen impacts.

Project Location

The project site is bounded on the north by the West Basin of the Santa Barbara Harbor, on the east by East Beach, on the southwest by Leadbetter Beach, and on the west by the west breakwater. The proposed dredging project entails removal of sediment resulting from longshore transport and deposition of material into the harbor channels at Santa Barbara Harbor, Santa Barbara County, California (Figure 1); and placement of the dredged material downcoast on East Beach, either above +6 feet MLLW, or in the surf zone during the months of March and April.

Project Description

The proposed project, alternatives, and environmental commitments are described in detail in the April 1998 Draft Environmental Assessment. The following discussion summarizes key aspects of the project description.

Equipment

1. Dredge: Dredging operations will probably be conducted using an electric or diesel-powered cutterhead pipeline dredge. Other dredges that may be used include clamshell or hopper dredges.

2. Equipment Storage (see Figure 2 of the EA): Between dredge cycles, the dredge will be stored adjacent to the timber groin. During operations, the Navy Pier will occasionally be used to moor the dredge. Although excess pipeline and equipment will be kept at the same contractor's staging area used for previous operations, a section of sandy beach adjacent to Cabrillo Blvd, this site will now be surrounded by an 8-foot chain link fence. For aesthetic reasons, the fence will be covered with neutral-colored wood slats. Fence construction will take approximately one day and will require on-site use of a concrete truck.

Schedule

The dredging cycles for this 6-year operations proposal would begin each year, at the earliest, on September 1, or, more likely, in early November. Dredging is proposed to extend from the fall until April 30, with discharge directly onto East Beach. This schedule would avoid most of the peak of the grunion spawning season (usually May - June in Santa Barbara). From March 1 until April 30 only surf-zone discharge would occur, and dredging would be limited to daylight hours unless double or triple-shift dredging is required to complete a dredging episode prior to critical seasons of sensitive species.

Dredging and Disposal

The following are the specific proposed actions for maintenance dredging of Santa Barbara Harbor: (1) harbor channel dredging to project depths and widths; (2) sand trap maintenance within the entrance and navigation channels; (3) discharge of dredged material onto East Beach; (4) environmental monitoring; and (5) single-point surf-zone discharge during the months of March and April. Project elements also include fence construction around the staging area, and equipment storage. The Draft EA provides considerable detail on each project element. The addition of a secondary disposal site and changes in the environmental monitoring program are the primary differences from the previous (1993) EA.

Description of the Dredged Material

The subject dredged material is derived principally from littoral drift and includes sediment from coastal streams and bluff erosion. This material shoals in the harbor at an average rate of 890 cubic yards per day (COE, 1991). A faster rate of shoaling may close the navigation and entrance channels within a span of a few weeks, as was observed during January and February 1986.

Core samples were taken within the navigation channel and in the sand trap in August 1992. The geotechnical and chemical reports on sediment testing are included in Appendix A. The sediment sampled averaged approximately 7% fines (passing through a No. 200 screen), which indicates that the material is composed predominantly of particle sizes larger than silt or clay. Because the material to be dredged from the maintenance areas within the channels is composed entirely of recent littoral drift, sand-size particles are expected. The biological and chemical oxygen demand (BOD and COD respectively) of these materials has not been recently measured, but is expected to be low since the percentage of fines is less than 10%. A comparison with samples taken from the beach disposal site in 1993 indicated chemical and physical compatibility of dredge sediments with the receiving beach (see Appendix A).

Sediment samples of dredge material collected in 1993 through 1996 from the disposal pipeline were primarily composed of large grained sands (see Appendix A). Most samples were 96-99% sand. One sample obtained in March 1995, while dredging at -30 feet MLLW, had 21% fine material (passing a #200 screen), and another sample taken in April 1995 from a similar depth had 80% fine material (almost certainly a reporting error). If pockets of silty sand even exist, they are not expected to be representative of the dredge material, and would be mixed with other sediment during the dredging and disposal process. These data indicate that dredge sediments continue to consist of clean, recently deposited littoral material.

Since the composite average of 1993-1997 dredge sediment included less than 10% fines, and no core characteristic indicated sediment contamination, Tier II testing (U. S. EPA, 1991) was not performed. Based on the analyses, the materials proposed for dredging were determined to consist of beach compatible sand, suitable for discharge on East Beach. New sediment entering the channel and sand trap is also expected to consist of less than 10% fines, and thus will not be tested for contamination.

Sediment samples were taken within the navigation channel and seaward of East Beach in August 1992 and January 1993, respectively, for chemical analysis. Testing results for those samples are also provided in Appendix A. Results of the chemical analysis show that for the navigation channel, compounds tested for were either not detected or were below screening levels suggested by PSDDA (1989), minimum clean-up criteria listed by WDOE (1991), and lower effects range (ER-L) listed by NOS/OMA 52 (1990). For testing results at East Beach, sample TR#4 (-18' to -30' MLLW), TRPH levels were high; possibly due to heavy utilization of the area for small boat anchorage.

Determination of Consistency

A Consistency Determination is required for maintenance dredging, and disposal of dredged material, since the proposed operation could have an effect upon the coastal zone. The following Determination of Consistency is prepared in compliance with the

Federal Coastal Zone Management Act of 1972, Section 307 (Title 16, U.S.C. Section 1456(c)), which states that Federal actions must be consistent with approved state coastal management programs to the maximum extent practicable. Sections of the California Coastal Act of 1976 applicable to this project, as determined by the Los Angeles District, include: Article 2 - Public Access (Sections 30210); Article 3 - Recreation (Section 30220-30224); Article 4 - Marine Environment (Section 30230-30235); and Article 5 - Land Resources (Section 30240).

It is the opinion of the Los Angeles District Corps of Engineers, based on a review of the applicable sections of the Act, and on the data presented in the EA prepared for the proposed maintenance dredging activities, that the Santa Barbara Harbor Maintenance Dredging Project is consistent with the California Coastal Act of 1976, to the maximum extent practicable. This Determination of Consistency has been prepared with the following applicable sections of the California Coastal Act of 1976:

a. Article 2 - Public Access (Sections 30210-30219):

The proposed maintenance dredging of Santa Barbara Harbor and subsequent beach or surf zone disposal would not cause a significant adverse impact to public access to the harbor, local beaches, or associated recreational facilities. Public access would be limited within the immediate area of the dredging and disposal operations for safety reasons.

Utilization of heavy equipment would detract from recreational use (i.e. walking, jogging, sunbathing, etc.) of East Beach. Beach disposal, however, would be completed before April 30, prior to peak recreation use. Impacts to beach recreation, therefore, would be temporary, localized, and not significant. Dredge equipment and floating pipes could obstruct recreational and commercial vessels. The navigational impacts will be minimized by properly marking the pipes and buoys so that boaters can safely avoid the immediate dredging area. The COE has included a provision in the Environmental Commitments section of the Draft EA which requires in-field coordination between the contractor and the 11th Coast Guard District in Long Beach. Impacts to recreational and commercial vessels, therefore, would be insignificant.

The COE may use surface disposal pipeline over part of the sandy beach. Surface lain pipeline would allow for simplicity, cost efficiency, safety and readily allow for pipe maintenance. This would result in minor impacts to beach visitors attempting to cross the pipe, but ramps would be provided for emergency vehicle and pedestrian access at intervals along the pipeline route. The pipe itself would not cover a significant area of beach, and beach replenishment would enhance recreational use. The COE has included a provision in the Environmental Commitments which requires in-field coordination between the contractor and the City of Santa Barbara, Waterfront Department regarding placement and removal of the disposal pipeline; therefore, no significant impacts would result from the disposal pipeline method.

b. Article 3 - Recreation (Sections 30220-30224):

The proposed maintenance dredging activities at Santa Barbara Harbor are intended to provide a safe, navigable channel, and a well-nourished beach. Recreational uses of the area are heaviest in the summer and are not expected to be adversely affected, since the construction activities are scheduled for the fall through early spring months. As stated above, public access at the selected disposal site will remain available during the construction period. Disruption to the recreational facilities within the project area is considered minimal and short-term, and the nourished beach would be expected to increase recreational opportunities in the area.

c. Article 4 - Marine Environment (Sections 30230-30235):

General Marine Environment

The impacts of dredging on marine biological resources are discussed at length in LaSalle et al. (1991). That review provides summaries on much of the literature concerning impacts of the physical and chemical alterations associated with dredging on shellfish, fish, benthic organisms, seabirds, and marine mammals. That report describes in detail specific environmental consequences - such as, suspended sediments, sedimentation, dissolved oxygen reduction, and entrainment - which are caused by dredging. That report is hereby incorporated by reference as per 40 CFR 1502.21.

The proposed discharge would not cause or contribute to the erosion of existing downcoast beaches and should result in temporary beach accretion because material would be returned to the intertidal zone. This disposal site is above Mean Higher High Water level (+6 feet MLLW) and is the most desirable location for the purposes of beach nourishment and minimizing return of sediment into the harbor from the littoral processes. Disturbances resulting from dredge material discharge occurring once or twice per annum (and natural sediment deposition from Mission Creek) would not significantly degrade the value of intertidal and subtidal beach habitats. No significant cumulative adverse effects on the terrestrial or aquatic ecosystems would occur as a result of the proposed project.

Water Quality

Temporary physical and chemical changes in water quality characteristics may result because of resuspension of bottom sediments during dredging activities. Any contaminants present could become ecologically active upon disturbance by these activities. Core samples taken from the proposed dredging areas at Santa Barbara Harbor indicated fines of less than ten percent. Contaminants do not typically adhere to large-grained sands; therefore, contaminants are not expected in the dredged material. Because of both the general lack of pollutant sources typical of the larger commercial harbors, and the historical grain size of the littoral drift material, the effects of these activities are expected to be either minimal or absent.

Dredging impacts may include temporary increases in turbidity and suspended solids levels along with the associated decreases in dissolved oxygen in the immediate vicinity of the dredging and disposal operations. Increased turbidity would result in a decrease in light penetration and cause a general decline in aquatic primary productivity. Any appreciable turbidity increase may cause clogging of respiratory and feeding apparatuses of fish and filter feeders. Motile organisms, however, would evacuate and avoid the dredging area and temporarily relocate to an undisturbed area. Due to the small percentage of fines in

the dredged material, increases in turbidity would be minimal and restricted to the immediate vicinity of the operation.

Dredging activities probably contribute only a small percentage of the total turbidity found in the ocean when compared with that created by natural erosion of the beach, storm runoff from terrestrial habitats, and resuspension of solids by waves, currents, and maritime traffic. High levels of turbidity resulting from the dredging operation are usually restricted to the immediate vicinity of the dredging area and tend to dissipate rapidly. For these reasons, the proposed dredging and disposal project is not expected to cause significant changes in water quality. Furthermore, dredging and disposal activities shall adhere to the requirements and controls set forth by the California Regional Water Quality Control Board.

There have been no major oil spill accidents in the Santa Barbara Channel since the Union Oil blowout in 1969. Minute amounts of oil are presumed to come from natural fissures and natural seeps which have been in the harbor for over a decade. There have been no new accidental contaminated waste incidents in the harbor in over the past fifteen years. Furthermore, the mechanical analysis of the sediment sampled in September 1992 indicated the predominance of sand; therefore, the dredged material is not expected to contain significant levels of contaminants and no significant impacts to water quality are expected.

Three replicate water samples will be taken once per week within 30 meters down current of the dredged material disposal point and sampled for total and fecal coliforms. This monitoring will ensure that bacterial levels are within acceptable limits and do not pose a health risk to the public. If levels exceed acceptable limits (200/100 ml), coordination will be re-initiated with the CRWQCB and the County of Santa Barbara (Department of Environmental Health Services) to determine an appropriate response (such as the placement of warning signs). Additional daily sampling would be conducted within the surf zone at 30, 60, 150, and 300 meters down current of the dredge material disposal point until no bacterial contamination is noted for three consecutive days.

Biological Resources

1. Vegetation. Benthic flora within the immediate project area would be eliminated by the dredging activities because of site excavation and substrate removal. This impact is expected as a regular part of maintenance of the harbor; therefore, the proposed dredging project would not create any adverse impacts to marine vegetation. Impacts to marine algae and meioflora are localized, minimal, and not significant. No discharge would occur in vegetated areas of the beach front. Little native coastal strand develops on the beach because of trampling associated with high public use. Therefore, no impacts to terrestrial vegetation are expected.

2. Invertebrates. Dredging and disposal activities inherently cause a disturbance and redistribution of bottom sediments which may persist for the duration of the operation. Some invertebrates, especially small crustaceans and molluscs of the infauna, may be relocated with the dredged material and deposited on the discharge site. Some would be

smothered, some would become food for opportunistic shorebirds, and others would survive at the new location.

Invertebrates, epifauna, and infauna may be exposed to suspended sediment concentrations during dredging and up to 24 hours later. Dredging and disposal operations may cause some clogging to gills and suspension feeding apparatuses, resulting in smothering to invertebrates in the immediate vicinity. Impacts are expected to be minor since sediment is composed primarily of fine sands and few silts. The high proportion of sands is due to the frequency of dredging littoral drift sediments. Invertebrates are expected to recover from the disturbance upon completion of the project. The impacts to invertebrates are minimal, temporary, and not significant.

3. Fish. Dredging of waterways to improve navigation or harbor facilities could affect fish resources in a variety of ways. The dredging process could result in direct loss of foraging habitat, but perhaps even more significant is the turbidity associated with this activity. Some fish may avoid the immediate project area during dredging operations because of the increased noise levels, and oxygen depletion caused by dredged bottom muds. Other fish species may be attracted to the surf zone to feed on mollusks, crustaceans, and other organisms which may have been caught up in, or exposed by, the dredged material. Impacts would be temporary and therefore, insignificant. Greater potential for impacts would exist if there were substantial amounts of fine sediments and organisms in the potential dredging areas; however, testing of samples of material to be dredged indicated grain sizes are predominately fine to medium grain sands.

Beach disposal is scheduled from September 1 to April 30. Disposal on the beach at this time should minimize effects to grunion and enhance grunion spawning habitat by decreasing the effects of normal long-term erosion. Potential effects to grunion spawning on beaches after March 1 would be minimal and limited to burial of eggs that were in the immediate (500-foot) area of discharge. Additionally, spawning densities at East Beach appear to be significantly lower in March and April and in May and June.

4. Birds. Dredging activities may temporarily degrade water quality and increase ambient noise levels, which could cause disturbances to some birds. Increased levels of activities within the harbor or at the disposal site may decrease waterfowl use of the beach, the breakwater and other nearby structures for roosting. These effects are not significant because dredging operations would be temporary and localized. Birds and marine mammals are expected to rapidly acclimate to the dredge's monotonous, non-threatening noise (Climo 1987, Gentry 1990) and to return to the project site once construction is completed at the end of the day. Increased foraging opportunities at the disposal site may, in fact, attract birds to the disposal areas. Birds such as gulls, sanderlings, and godwits have been observed feeding in the slurry as it is discharged. No significant adverse impacts to birds are expected from this project.

5. Marine Mammals. Since local dredging operations would result in no impacts to sea otters, harbor seals, elephant seals, gray whales, and sea lions, the proposed operation is not expected to create any adverse impacts to marine mammals. Sea lions and seals generally do not haul out on the breakwater or local beaches and would probably keep clear of the dredging activities; therefore, there would be no significant impacts to these

mammals. Santa Barbara Harbor does not constitute essential feeding or breeding habitat for any marine mammal species that may be present in the area. No impacts to gray whales are expected. Impacts to other marine wildlife would be short-term and are not considered significant as wildlife activities would return to normal upon project completion.

Threatened and Endangered Species

1. Species Profiles:

Federally-listed Threatened or Endangered species which are known, or likely, to occur in the project area include: the brown pelican (*Pelecanus occidentalis*), southern sea otter (*Enhydra lutris nereis*), western snowy plover (*Charadrius alexandrinus nivosus*), and tidewater goby (*Eucyclogobius newberryi*). Steelhead (*Oncorhynchus mykiss*), the anadromous form of rainbow trout recently listed as endangered, may attempt to migrate in Lower Mission Creek. Species profiles are provided in the Draft EA.

2. Determination of No Effect:

Impacts to tidewater gobies and steelhead will be avoided by ensuring no disposal within, or blockage of Mission Creek. In a 27 May 1993 letter to the COE, the U.S. Fish and Wildlife Service concurred that dredging and disposal is also not likely to adversely affect the following threatened or endangered species:

A. California Brown Pelican. The endangered brown pelican is often present in Santa Barbara Harbor and beach area, especially between August and November. The proposed project would likely cause only a minor, temporary disruption of feeding habits in the harbor area. Since this species is highly tolerant of human activities in general, and its activities at Santa Barbara Harbor are confined to foraging and daytime roosting, not breeding, dredging operations would not impact this species.

B. Western Snowy Plover. This Federally listed threatened species is present in the project area. Food supply, nest-site availability, and predators are the environmental factors most likely to affect the nest density of the snowy plover, and subsequently its continued existence and recovery (Page et al, 1983). The population of snowy plovers on East Beach appears to be non-breeding; that is, no nesting or egg-laying of snowy plovers has been observed in Santa Barbara. For this reason, nest-site availability is probably not a factor affecting the Santa Barbara population.

There is evidence that the COE dredging operations may enhance food supply for snowy plovers. During on-site monitoring in February, 1992, COE personnel observed snowy plovers feeding on insects and small crustaceans associated with

debris washed up on the beach by high tide. Significant mounds of debris were limited to that portion of East Beach where the discharge pipeline was located. The remainder of the beach was regularly cleared by tractors (City of Santa Barbara). Snowy plovers observed by COE monitoring personnel were confined to a small section of sand along the discharge pipeline and some were feeding on debris mounded on the seaward side of the pipeline. The COE pipeline also seems to offer protection from the elements and human encroachment; the single observed plover flock preferred to roost directly adjacent to the pipeline and about 50 meters (164 feet) from the dredging discharge outfall. During site monitoring in March, 1992, after removal of the pipeline, the plover population was observed a short distance down the beach in an area where mounds of debris had accumulated from a recent high tide. At night one or two plovers were observed feeding in the surf zone. Plovers were no longer observed in April of that year, or for the remainder of the summer.

Similar observations were recorded in 1993 and 1997. A few plovers were observed on East Beach in March and April, with no evidence of nesting or courtship behavior. A larger group of up to 35 birds was observed on the sand spit in 1997.

Several human factors can affect the quality and quantity of plover habitat (Stenzel et al., 1981), including the vehicular or pedestrian traffic in plover nesting or foraging habitat; destruction of eggs by pedestrian or vehicular traffic; and harassment of adults during egg-laying, incubation, and parental care. Since these impacts are not expected to be associated with either dredging or disposal operations (with the exception of equipment required to occasionally maneuver pipe and grade the beach after disposal), it is not expected that the proposed project may adversely affect this species. Moreover, there was no evidence found that COE dredging operations, including pipeline discharge on the beach, negatively affected snowy plovers at Morro Bay Harbor during an extensive study in 1987 (Hutchinson, et al., 1987). The COE is requesting written concurrence from the Service that this project as proposed is not likely to adversely affect the plover or its critical habitat.

C. Southern Sea Otter. Sea otters are not expected to be in Santa Barbara Harbor. The few individuals that may occur would avoid work areas; therefore, this project is expected to have no affect on the southern sea otter.

d. Article 5 - Land Resources (Section 30240):

Modifications to the existing bottom topography should be expected as a result of the proposed dredging project. Local, but minor, changes to the bathymetry would result because of relocation of marine sediments. In addition, topographic changes to the existing land forms would occur from the disposal of dredged materials on East Beach above Mean Higher High Water, which would nourish beaches, and from the slow effects of erosion. The beach is eroded annually. Beach disposal and replenishment should, therefore, produce a positive effect through probable increases in beach recreational usage following the completion of the project. The beaches would be graded to cover black

organically-rich dredged material, to build the beach and to improve overall aesthetics on the beach. Trash and debris will be removed from the disposal site daily. Potential impacts of the proposed activities affecting the existing land use would be localized to the immediate project vicinity and are considered minor in nature.

APPENDIX F

COORDINATION CORRESPONDENCE

April 9, 1998

Office of the Chief
Environmental Resources Branch

Mr. Peter Douglas
Executive Director
California Coastal Commission
ATTN: Mr. James Raives
45 Fremont Street, Suite 2000
San Francisco, California 94105

Dear Mr. Douglas:

Enclosed for your review and comment is a copy of the Draft Environmental Assessment (EA) for the 1998 Six-Year Santa Barbara Harbor Maintenance Dredging Project. Attached to the EA, as per informal coordination with Mr. James Raives of your staff, is a Determination of Consistency with the California Coastal Act. This project is similar in kind to previous dredging projects in the area, which have received approval from the California Coastal Commission (CD-32-93, ND 76-95 (extension of the 1993 EA), and ND 30-90 (alternative disposal site)). Review of the project by the Coastal Commission is required, however, because of minor changes to the project description, including the addition of a secondary disposal site and modification of the grunion monitoring plan. Moreover, the Commission has not reviewed this project in full since endangered tidewater gobies were observed in the project vicinity, nor since the local steelhead population was recently listed as an endangered species.

The proposed project includes the annual removal of up to 600,000 cubic yards of littoral material from the entrance and navigation channels of Santa Barbara Harbor and the sand trap within the channels. The primary disposal site is located on East Beach, between 2300 feet and 6300 feet downcoast of the harbor. A secondary site, located between Mission Creek and the East Side Channel, would be used only if significant erosion occurs in that area. Sediment has been tested in accordance with applicable regulations and found to be compatible with beach disposal. The proposed project is required to maintain Federally-authorized channel configurations, and to restore and ensure safe navigability within the harbor.

Dredging is expected to be performed using a hydraulic cutterhead (pipeline) dredge, although a hopper dredge, clamshell dredge with disposal barge, or a combination of dredge platforms may also be used. Operations are expected to occur from September 1 to April 30 each

year. Single-point discharge would be utilized from March 1 through April 30 to minimize impacts to grunion.

Please respond with comments on the Environmental Assessment, staff recommendations, and Commission findings within forty five (45) days of receipt of this letter. Correspondence may be sent to:

Mr. Robert S. Joe
Chief, Planning Division
U.S. Army Corps of Engineers
Attn: Ms. Hayley Lovan
P.O. Box 532711
Los Angeles, California 90053-2325

If you have any questions regarding the project, please contact Ms. Hayley Lovan, Environmental Coordinator, Environmental Support Section, at (213) 452-3863.

Thank you for your attention to this document.

Sincerely,

Robert S. Joe
Chief, Planning Division

Enclosure